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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,014	09/06/2006	Mehrzaad Movassaghi	1491-148	7860
32084	7590	04/11/2008		
VERMETTE & CO. SUITE 320 - 1177 WEST HASTINGS STREET VANCOUVER, BC V6E2K3 CANADA			EXAMINER BASICHAS, ALFRED	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 04/11/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,014

Applicant(s)

MOVASSAGHI, MEHRZAD

Examiner

Alfred Basichas

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date 10/12/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Movassaghi (6,035,810) in view of Chato (6,464,490). Movassaghi discloses substantially all of the claimed limitations including, among other things, a pulse combustor, comprising: a) a first outer plate 12 comprising a central hub; b) a second outer plate comprising an annular hub 102; d) a combustion chamber 20; and e) a burner coupled to said annular hub 102, said burner operative to ignite a fuel/air mixture in said combustion chamber, wherein at least one of said plates has at least one coolant passageway 12,13 (first and second outer plates made of a flat coil of hollow tubing made of stainless steel with an inlet at the periphery of the coil and an outlet at the center thereof) therein for conducting coolant to through said plate (see at least col. 3, lines 9-14). Movassaghi further discloses spacers to set the separation between the plates (see at least col. 4, lines 62-66), a cylinder 100, 102,108 (see at least fig. 15), and a plurality of radially spaced elongated slots and nozzle openings 104,106.

Nevertheless, Movassaghi fails to specifically recite

a plurality of circular intermediate plates located between said first outer plate and said second outer plate, said intermediate plates being spaced apart to form tailpipe regions therebetween and between said outer plates and adjacent ones of said intermediate plates; and wherein one of the intermediate plates has the coolant passageway.

As regards the intermediate plates, Chato teaches this same feature for a similar device (see at least fig. 1-6). Chato states that the passages 18 between the plates are equivalent to a plurality of tailpipes to convey combustion gases, as is the case in the instant application. While Chato does not specifically provide motivation other than the

inherent function of conveying combustion gases, it has been held that "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1396 (2007). As regards one of the intermediate plates including the cooling passageway, it should be clear that all of the plates of Movassaghi include a coolant passageway. Hence, duplicating and increasing the number of plates would insure that the intermediate plates, as with the outer plates, would include coolant passageways. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the plural plate arrangement of Chato into the invention disclosed by Movassaghi, since it has been held that it would be obvious to try and also that to provide duplicate parts for multiplied effect is not the type of innovation for which a patent is granted. *St. Regis Paper Co. v. Bemis Co., Inc.*, 193 USPQ 8, 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Basichas whose telephone number is 571 272 4871. The examiner can normally be reached on Monday through Friday during regular business hours.

Art Unit: 3749

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center telephone number is 571 272 3700.

April 11, 2008

/Alfred Basichas/
Primary Examiner, Art Unit 3749